

IN THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A stent delivery catheter assembly, comprising:
a catheter including an elongated catheter shaft having a proximal end and a distal end with an inner inflation lumen extending therein;
an expandable member having a proximal end and a distal end, a length and a desired inflated diameter disposed near the distal end of the elongated catheter shaft which is in fluid communication with the inner inflation lumen, the expandable member being adapted to receive a stent for mounting thereon;
a stent mounted on the expandable member; and
a moveable sheath adapted to cover a portion of the stent during delivery and having an inner lumen with smaller diameter than the desired inflated diameter of the expandable member, the sheath being movable over a portion of the expandable member so that only a portion of the expandable member not covered by the sheath expands to the desired inflated diameter upon inflation to create a working length of the expandable member which is at least as long as the length of the stent mounted on the expandable member, the sheath possessing sufficient strength to prevent any portion of the expandable member covered by the sheath from expanding when the expandable member is inflated.
2. (Original) The stent delivery catheter assembly of claim 1, wherein:
the stent has a length which is smaller than the length of the expandable member.

3. (Original) The stent delivery catheter assembly of claim 1, wherein:
the moveable sheath covers the entire stent during delivery.
4. (Previously Presented) A stent delivery catheter assembly, comprising:
a catheter including an elongated catheter shaft having a proximal end and a distal end with an inner inflation lumen extending therein;
an expandable member having a proximal end and a distal end, a length and a desired inflated diameter disposed near the distal end of the elongated catheter shaft which is in fluid communication with the inner inflation lumen, the expandable member being adapted to receive a stent for mounting thereon;
a moveable sheath adapted to cover a portion of the stent during delivery and having an inner lumen with smaller diameter than the desired inflated diameter of the expandable member, the sheath being movable over a portion of the expandable member so that only a portion of the expandable member not covered by the sheath expands to a desired inflated diameter upon inflation; and
a stent mounted on the expandable member, wherein:
the moveable sheath has a distal tip which is substantially expandable and expands as the expandable member is expanded.
5. (Original) The stent delivery catheter assembly of claim 1, wherein:
the moveable sheath includes an inner surface having a lubricious coating decrease friction between the sheath and stent.
6. (Original) The stent delivery catheter assembly of claim 1, wherein the sheath has a proximal and a distal portion and the inner lumen which extends within the distal portion of the sheath is provided with larger internal transverse dimensions than the

inner lumen of the proximal portion thereof to facilitate receiving the stent and the expandable member.

7. (Currently Amended) A method of delivering a stent within an area of treatment in a body lumen, comprising:

mounting a stent upon an expandable member having a length greater than the length of the stent;

covering the stent and expandable member with a moveable sheath which is disposed in a co-axial arrangement over the stent and expandable member, the sheath possessing sufficient strength to prevent any portion of the expandable member covered by the sheath from expanding when the expandable member is inflated;

advancing the stent and expandable member into the area of treatment in the body vessel;

retracting the sheath to expose the mounted stent on the expandable member, the moveable sheath being placed along the expandable member to create a working length of the expandable member in which only the portion of the expandable member not covered by the sheath will expand when inflated;

inflating the expandable member to create the working length which is at least as long as the stent to expand the stent within the body vessel; and

deflating the expandable member.

8. (Previously Presented) The method of claim 7, wherein:

after the expandable member has been deflated, the sheath is moved over the expandable member to create a working length of the expandable member which is utilized to expand any portion of the stent which has not been fully deployed within the area of treatment.

9. (Original) The method of claim 8, further comprising:
adjusting the position of the expandable member within the area of
treatment to perform subsequent expansion of the initially expanded stent.
10. (Original) The method of claim 7, wherein:
when the sheath is retracted to expand from the stent, an effective working
length is created on the expandable member which corresponds to the length of the stent.
11. (Previously Presented) A catheter assembly for delivering and deploying
an implantable medical device in a patient, comprising:
a catheter including an elongated catheter shaft having a proximal end and a
distal end with an inner inflation lumen extending therein;
an expandable member having a proximal end and a distal end, a length and
a desired inflated diameter disposed near the distal end of the elongated catheter shaft
which is in fluid communication with the inner inflation lumen, the expandable member
being adapted to receive a medical device for mounting thereon;
a medical device mounted on the expandable member; and
a moveable sheath having an inner diameter large enough to allow the
sheath to cover the medical device during delivery, the inner diameter of the sheath being
smaller than the desired inflated diameter of the expandable member, the sheath being
movable to cover a portion of the expandable member and possessing sufficient strength
to prevent the covered portion of the expandable member from expanding when the
expandable member is inflated.

12. (Previously Presented) The catheter assembly of claim 11, wherein the moveable sheath has a distal tip which is substantially expandable and expands as the expandable member is expanded.

13. (New) A stent delivery catheter assembly, comprising:
a catheter including an elongated catheter shaft having a proximal end and a distal end with an inner inflation lumen extending therein;
an expandable member having a proximal end and a distal end, a length and a desired inflated diameter disposed near the distal end of the elongated catheter shaft which is in fluid communication with the inner inflation lumen, the expandable member being adapted to receive a stent for mounting thereon;
a stent mounted on the expandable member; and
a moveable sheath adapted to cover a portion of the stent during delivery and having an inner lumen with smaller diameter than the desired inflated diameter of the expandable member, the sheath being movable over a portion of the expandable member so that only a portion of the expandable member not covered by the sheath expands to the desired inflated diameter upon inflation to create a working length of the expandable member which is at least as long as the length of the stent mounted on the expandable member and wherein the sheath has a proximal and a distal portion and the inner lumen that extends within the distal portion of the sheath is provided with larger internal transverse dimensions than the inner lumen of the proximal portion thereof to facilitate receiving the stent and the expandable member.

14. (New) A method of delivering a stent within an area of treatment in a body lumen, comprising:
mounting a stent upon an expandable member having a length greater than the length of the stent;

covering the stent and expandable member with a moveable sheath which is disposed in a co-axial arrangement over the stent and expandable member;

advancing the stent and expandable member into the area of treatment in the body vessel;

retracting the sheath to expose the mounted stent on the expandable member, the moveable sheath being placed along the expandable member to create a working length of the expandable member in which only the portion of the expandable member not covered by the sheath will expand when inflated;

inflating the expandable member to create the working length which is at least as long as the stent to expand the stent within the body vessel;

deflating the expandable member; and

moving the sheath over the expandable member to create a working length of the expandable member which is utilized to expand any portion of the stent which has not been fully deployed within the area of treatment.

15. (New) The method of claim 14, further comprising:
adjusting the position of the expandable member within the area of treatment to perform subsequent expansion of the initially expanded stent.

16. (New) The method of claim 14, wherein:
when the sheath is retracted to expand from the stent, an effective working length is created on the expandable member which corresponds to the length of the stent.